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ABSTRACT

Information studies programs in the ASEAN (Association of Southeast Asian Nations) region cater to a range of economic and technological situations. They not only prepare information professionals for the modern networked global economy, but also emphasize the role of an information professional as an agent of change for guiding and stimulating the development of remote or backward regions and helping them access and use global information sources. This paper examines prevalent themes in a workshop on information studies education at the 2000 Congress of Southeast Asian Librarians, including: the social, economic, and political context of information studies programs; the convergence of multiple disciplines; the divergence of specializations; information technology in the curriculum; the quality of students; staffing; and obsolescence and change in information studies programs. (Contains 15 references.) (Author/MES)

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# Exploring cross-cultural issues in information studies education in Southeast Asia and the Pacific

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## Abstract

*Information Studies programmes in the ASEAN region cater to a range of economic and technological situations. They not only prepare information professionals for the modern networked global economy, but also emphasize the role of an information professional as an agent of change for guiding and stimulating the development of remote or backward regions and help them access and use global information sources. This paper examines the issues of the socio-economic context of Information Studies programmes, the convergence and divergence of the discipline, information technology in the curriculum, the quality of students, and obsolescence and change in Information Studies programmes.*

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## Paper

## Introduction

The 11th Congress of Southeast Asian Librarians (CONSAL) was held in Singapore in April 2000. In conjunction with the conference, a Workshop on


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Information Studies Education (WISE) was organized by the Division of Information Studies, Nanyang Technological University, for educators and librarians to explore issues in information studies education in the Southeast Asia and the Pacific region. The WISE Workshop organizers hoped that such a forum would encourage the development of an organisational culture for information studies educators in the region and promote communication and collaboration.

Fifty-one people attended the workshop, with representatives from Thailand, Indonesia, Malaysia, Australia, the Fiji Islands, Hong Kong, Kuwait, Sri Lanka, the Netherlands and Singapore. Seven papers were presented. Some of the intangible functions operating at the Workshop were socialisation and identification with colleagues, problems discussion and identifying potential solutions to common problems, building group consensus, appreciating the exotic diversity of culture and contexts that the various information studies (IS) programmes are situated in, and simply keeping everyone interested in the progress of the profession.

To facilitate an online dialogue and to engage more educators in the region, a Web site has been set up at the URL http://islab.sas.ntu.edu.sg:8000/WISE/ (where papers presented at WISE can be found). A listserv is also planned. It is hoped that this will build a community of education and practice so that a regional identity might emerge, and the forum would act as a voice for the region, a collective memory, and function as a reaffirmation of professional identity.

According to Robert Stueart (1999), one of the challenges to information access in Asia is a lack of a critical mass of professionals. He wrote, *"one of the most important activities in an information society is to maintain a cadre of qualified information professionals"*. For this to be possible, we must maintain a high-calibre cadre of information professional educators to train and qualify information professionals, and also to help shape the evolving information society.

An examination of the themes seen to be prevalent in the Workshop discussion were recorded and presented in this paper as an aspect of information recognition, an environmental scan.

**The Social, Economic and Political Context**

Stueart (1999) pointed out that there are great differences among the countries of the region. Some have highly developed library and information systems while others are at a much less developed stage. He said, however, *"that most countries within the Region are striving to develop into information societies, and some of the library and information studies programs already reflect the effort, while at the same time reflecting the social and cultural environments within which they operate."*

There is certainly a wide range in economic and technological development in the region. On one hand, Singapore is comparatively advanced. There is much discussion in the local newspapers about the knowledge-based economy and the importance of knowledge management. The Singapore government has aspirations of transforming the island nation into a regional and international information hub and an *"intelligent island."* There is an awareness of the importance of life-long learning as a means to stay relevant in a global market place and a rapidly changing environment. The public library system is rapidly expanding to play a central role in developing *"a learning nation."* Innovative

library and information services are being develc,ped and prototyped.

In contrast, Paula Jones (2000) writes that *"in the South Pacific region, libraries have been in a type of time warp that has buffered them from the sweeping changes in information technology elsewhere in the world."* Most libraries in the South Pacific region are underfunded and poorly developed, have old, out-of-date materials mostly in print form, have no regular budget, and are staffed by people with little or no library training. Most libraries operate with manual systems, and many have no computers. There is no vision of how libraries and information underpin education and economic development. However, even regions that are in such backward situations are, as Stueart (1999) says, striving towards an information society. The Internet seems to be providing additional impetus to this transformation. Jones (2000) reported that the situation in the South Pacific is changing: the world of Internet and CD-ROMs, electronic database and on-line information retrieval is finally overtaking the South Pacific … an increasing number of libraries are automating their systems or are considering automation. The process has been hastened by the spread of the Internet in the USP region, with its glamour and promise of unlimited access to information. There is a wave of enthusiasm for new information technology in the region, and this seems to be benefitting some libraries whose parent organisations recognise the library as a natural centre for controlling the new I.T.

Clearly, IS programmes in the region have to cater to a range of economic and technological situations, to prepare information professionals for the modern networked global economy as well as to train change-agents to guide and stimulate the development of remote or backward regions and help them access and use global information sources. As Bowden (2000) stressed, the traditional librarianship paper-based skills cannot be dropped. However, Information Professionals have to be equipped to be involved in the *"Global Knowledge Partnership."*

In addition to national socio-economic and technological conditions, other contextual factors also have an impact on the nature of the IS programme. Khoo & Hawamdeh (2000) identified the following factors as having influenced the development of the IS curriculum at the Nanyang Technological University, Singapore:

- the university environment and the parent faculty in which IS programme is situated
- the background and expertise of its faculty members
- the local economy and job market
- student demands and expectations of the programme.

They pointed out that the situation of the IS programme in the same faculty as the Computer Engineering programme (the faculty has just been renamed School of Computer Engineering) has influenced the programme to be more IT oriented.

Jones (2000) reported that the University of the South Pacific recently upgraded its network, making possible video transmission, access to the online library catalogue and electronic resources and databases. This gives students in the IS programme the opportunity to have practical experience with electronic information services, the World Wide Web and other new information technologies. In Thailand, Sujin Butdisuwan (2000) reported that the IS field is labeled as social science and as a result gets less support from the government than scientific fields. However, there is growing awareness among politicians as well as the public that information is crucial to development and business, and

that effective management of information requires professionals. Graduates of IS programmes, however, have to compete with Computer Science graduates for jobs in information handling and management.

A flexible university environment, a collaborative team of faculty members, opportunities for continuing education for staff, and encouraging economic prospects for information professionals of all kinds are essential characteristics of a healthy context for library and information science professionals and their educators. Another powerful contributor to healthy context is collegial support. Collegial support for interdependence is an effective strategy for learning information technology, just as participating in reciprocal classroom observation, talking about teaching practice, and having a communal language about teaching makes learning less threatening (Roy, 1996).

**Convergence of Multiple Disciplines**

The IS field is clearly multidisciplinary and interdisciplinary. Both Rehman (2000) and Myburgh (2000) pointed out that, paradoxically, there is simultaneously a convergence and divergence in the IS field. Myburgh noted that IT is convergent in nature. For example, all the communication and computing technologies are coming together on the Internet. Similar kinds of IT are being used by all information professions.

There is a corresponding convergence of information professions.

Middleton (1994) said that *"The apparent convergence of information handling processes engendered by the technology has led to suggestions of an associated convergence of disciplines."* Because of the technological convergence, the divisions between computer science, broadcasting, library science and journalism are increasingly fuzzy and the fields are seen to overlap substantially. Indeed, at Nanyang Technological University, some Mechanical Engineering graduate students are taking IS courses, especially those dealing with user needs, human computer interaction, interface design, programming and systems analysis and design because they are seen as relevant to mechanical engineering!

We are also seeing a convergence of lecturers from fields as diverse as computer science, management, psychology, education, social informatics, graphics design, human-computer interaction, computational linguistics, etc, to the IS departments. Similarly, our student body come from diverse academic backgrounds and economic sectors. In the IS programme at Nanyang Technological University are librarians, teachers, programmers, system managers, architects, lawyers, managers, businessmen, administrators, military/navy personnel, graphic designers, engineers of various kinds and even a doctor. Interacting and making friends with people from diverse backgrounds is seen as one of the most rewarding parts of the programme.

Rehman (2000) suggested that dichotomies in the profession, such as library science versus information science were no longer relevant to the discussion. The presence of a philosophical or social dichotomy was no longer seen to serve a purpose. Retaining IS programmes in graduate education maintains an economic and social balance based on the service values of librarianship. Just such a consciousness is emerging globally. The U.S. National Research Council (2000), for example, advocates research *"centering on the social and economic impacts of information technologies in the discipline"*.

The convergence of information professions suggests that there are areas that are common, core or fundamental to the information professions. Pemberton &

Nugent (1995) identified the following areas of convergence in librarianship, archives and records management:

- Information life-cycle concept
- Gatekeepers
- Information storage and retrieval
- Information representation
- Assistive and instructional roles
- Ethics
- Custodial and preservation concerns

Lim (2000) outlined the following model curriculum with the implication that these are core areas:

- Information management and organisation
- Information resources and access infrastructure
- Communication with and training of users
- Economic and legal perspectives
- Preservation and archiving

Myburgh (2000) listed the following as core subjects:

- Information and society
- Information organization and representation of information
- Document control and management
- Systems analysis, design and implementation

Myburgh believes that there are also core values of service commitment, user orientation and the concept of the information professional as an intermediary in the information seeking process. It is important for IS programmes in the region to inculcate these values in their graduates because, as Butdisuwan (2000) says, some students coming to the IS programmes lack the appropriate attitude, aptitude and personality for information work.

At the WISE Workshop, there appeared to broad agreement about the core areas of Information Studies. However, it is not clear how much of the core areas to teach, how to teach them, and how to package them in a way that makes them relevant to the diverse disciplines and engaging to students with different interests. This is probably for the individual IS programmes to customise according to their particular circumstances and to develop their unique brand of IS education.

**Divergence of Specialisations**

Together with the convergence of formerly disparate fields, there is a divergence of specialisations. As Myburgh (2000) noted, a range of new information careers has appeared including knowledge managers and analysts, cybrarians, information brokers, corporate information managers, Webmasters, Network navigators, information mappers and architects, etc. IS programmes are offering courses in new disciplines and are defining new concentrations or specialisations in their programmes. Some schools are also offering parallel master degree programmes.

We agree with Myburgh that information professionals can no longer be generalists. Information professonals have to be knowledgeable and competent in specialised areas to compete in the job market. Singapore's Nanyang Technological University's IS curriculum has been revamped twice in the last

three years. In the initial curriculum, students took 7 core courses and 1 elective course. A revised curriculum offered in 1998 reduced the core courses to 4. Students selected 4 elective courses from a larger list of courses, with one group of courses focusing on library and information services and the other group focusing on information technology and systems.

Barely a year later, the school embarked on another curriculum revision exercise partly because of feedback from students that the courses gave them broad basic skills but did not equip them to function competently and confidently in the new information professions. This third curriculum was designed to provide students some degree of specialisation. It defines two areas of concentration: library and information services concentration, and the information management and systems concentration. In the library and information services concentration, the specialisations of public libraries, academic libraries, school libraries and media resources as well as corporate information services are offered. The information management and systems concentration has the following four specialisations: Internet and multi-media based information systems, information systems and products development, document and records management, and knowledge management.

In the past, the IS programme is designed to provide basic IS education, and graduates are then expected to take entry-level positions in an organisation (usually a library) and acquire experience and specialised professional knowledge on the job. However, in the current competitive market, fresh information professionals may not have the luxury of working in the collegial and protective environment of a library, but may have to work in isolation (they may be the only information professional in their organisation) and compete with people from other backgrounds. Graduates of IS programmes have to be equipped to function immediately as competent professionals and hold their own in the marketplace.

**Information Technology in the Curriculum**

A recurrent and predominant theme at the WISE Workshop was information technology (IT), particularly Internet-related IT. As Myburgh (2000) noted, *"Although many factors in society have compelled a substantial reassessment of the education of information professionals, including changing information behaviours, education and work competencies, and the value of information as a strategic and economic commodity, it is the ubiquitous use of IT that is of greatest concern. It is the professions' response to IT that will shape the future. Will the use of IT indicate a new and successful direction for LIS?"* Khoo & Hawamdeh (2000) said that *"To prepare graduates to work in an increasingly computerized and networked environment, information studies programmes worldwide now have a substantial IT component in their programmes. Whereas library automation dominated the IT aspect of information studies education in the 80s, the Internet dominated information studies education in the 90s and will probably continue to do so for many years."*

However, they pointed out that IS programmes are facing the same issues and questions regarding IT that they faced in the 80s:

- How much and what kind of IT should be in the curriculum?
- What IT skills are needed by our graduates to obtain employment in non-traditional environments?
- How do we incorporate IT in such a way that we don't lose our identity as information studies schools and become a second-rate computer science department?

- How do we teach introductory IT courses in a way that justifies calling them graduate-level courses?
- IT is taking up time needed for teaching core library skills. How can the curriculum be structured so that our graduates still have core information skills needed for work in libraries and information services?
- Who will teach these IT courses?

From a quick survey of the curricula of 20 top IS programmes worldwide, they found that the proportion of IT in the curricula differ from school to school, but on average they account for about 30% of the total number of courses.

Khoo & Hawamdeh (2000) said that the limited number of library-related jobs makes it necessary to train graduates for non-traditional information positions. These new-age information professions are not only information-intensive, they are also IT intensive - requiring more IT skills. The poor perception of librarians by the general public has also made it necessary to focus on the new-age information professions to attract more and better-quality students. The terms *"Internet"*, information technology and knowledge management in publicity materials and newspaper advertisements have attracted many applicants to the IS programme in Singapore.

It was apparent at the WISE Workshop that there were two different attitudes towards incorporation of IT in the IS curriculum. The first is the more traditional attitude that IS programmes should focus on information handling skills and high-level knowledge of the use of IT for information handling. Technical knowledge of IT should be left to IT professionals.

The second attitude is that IT is so inextricably tied up with information handling that information professionals need to be semi-IT professionals with a substantial amount of IT knowledge and skills. Indeed, in the course of their work, information professionals may have to do some programming or scripting, or design IT tools for their use.

We feel that these two attitudes are not incompatible. IS programmes need to train both kinds of professionals, and these two attitudes are sometimes reflected in the different streams and concentrations in IS programmes.

**Quality of Students**

Butdisuwan (2000) said that IS programmes in Thailand have problem attracting good students because of the poor perception of librarianship as a career. Some students also lack a *"proper attitude"* for library and information work. Their English is limited.

How such factors affect employment prospects of IS graduates is not clear, although if managerial, social and higher-level aspects of human computer mediation are required of graduates, certainly *"proper attitudes"* need be instituted. Examining what the correct attitudes that we wish to communicate to our students leads back to core assumptions and values of the discipline. These can only be inculcated as part of the managerial mileau through educators as living examples of *"practicing what you preach"*.

In the South Pacific region, Myburgh (2000) reported that students in the library diploma distance education courses offered by the University of the South Pacific often suffer from isolation, lack family support for education, and use English as a second or third language. Students come to the programme with very little exposure to PCs. She cited Mugler & Landbeck (1998) who had found

that *"resources such as books or newspapers are often extremely scarce. Some homes do not have electricity and studying must be done by the light of a kerosene lamp. Often the student has no private space for studying. Family, community, religious and work obligations often take precedence over studying. While members of the family may support in principle an individual's decision to study, they may be unable to provide assistance or even understand the students' difficulties and needs."*

Language is a major problem in countries where the medium of instruction in schools is not English, since most IS books, journals, and Web sites are in English. Without proficiency in English, it is difficult have an adequate education in IS and continually update one's professional knowledge in the rapidly changing information and technological environment. In countries, such as Thailand, where the medium of instruction is not English, IS faculty members may have the task of writing textbooks in the local language.

**Staffing**

Recruiting high calibre staff to teach in and develop IS programmes is a problem in this region. At the IS Division at Nanyang Technological University in Singapore, more than 60% of the faculty are recruited from abroad. The Asian economic crisis and currency depreciation has meant that remuneration is no longer attractive enough to persuade IS educators to relocate to Southeast Asia.

Staffing IS programmes is even more problematic if the medium of instruction is not English, because faculty members have to come from within the country or other countries that share the language. Butdisuwan (2000) identified the greying of faculty as one of the problems facing IS programmes in Thailand. Schools are inviting retired lecturers to come back and help the school in various ways. The difficulty of recruiting IS educators was also addressed by Rehman (2000) who said that *"many developing nations have graduate programs, yet are without faculty who are capable of conducting them."*

An obstacle to IS education cited by nearly all the paper presenters at WISE is that IS lecturers lack IT competency and few lecturers can teach IT-related courses. Some programmes have addressed this problem by recruiting lecturers from IT disciplines (Butdisuwan, 2000).

Khoo and Hawamdeh (2000) pointed out that if a particular IT course is deemed necessary, either lecturers with the appropriate background can be recruited (although cross-disciplinary appointments have their own unique problems, namely a knowledge of associated norms and cultures) or current lecturers will have to be assigned to pick up the new area and acquire the necessary knowledge and skills. The latter alternative seems to make sense since technology is progressing so rapidly that faculty members have to be mentally agile and possess the technical aptitude to keep abreast of IT developments, and explore how new technology can be applied to information handling.

**Obsolescence and Change**

Participants at the WISE Workshop issued a ringing call for change in the education of IS professionals. There is a perception that IS curricula in the region is becoming obsolete. Stueart (1999) defined obsolescence as the degree to which professionals and other workers lack up-to-date knowledge or skills necessary to maintain effective performance in current roles, but obsolescence can also have a psychological or social definition and can depend on the work climate and environment.

Bowden (2000) called for a radical change in the profession to become relevant to the global environment and to play a major role in the *"global knowledge partnership."* He said that *"Much of our traditional thinking, practices and with them education and training, will have to be changed. And changed with the greatest speed."* He urged IS departments *"to devise programmes for very different sectors of the information profession."*

In a sweeping survey of IS education in South Asia (including Bangladesh, India and pakistan), six Arabian Gulf nations in the Middle East, and Southeast Asia, Rehman (2000) found that IS programmes are in urgent need of revision. He said that most schools have not revised their curriculum substantially in the last 10 years and their curricula are patterned after American and British models of the 70's and 80's. This inertia is the result of bureaucracy, apprehensions of faculty and lack of external pressure (e.g. from library associations). The programmes have a few basic IT courses but little integration of IT into the curriculum structure. New approaches to resource management, knowledge organisation and packaging and delivery of services in the electronic environment do not figure much in the curriculum.

There is emphasis in the Workshop papers on incorporating more IT in the curriculum and increasing the IT proficiency of IS faculty members. Rehman professed that curriculum revision is the foremost requirement in the changed context of information science and that library school lecturers must become proficient in information technology. According to Rehman, *"Technology had made significant inroads into these societies, and if these institutions do not prepare themselves for a meaningful change, they will become obsolete and irrelevant."*

However, there is no prescribed recipe for change that is appropriate for every IS programme. Individual solutions to curriculum revision by IS departments must be worked out by IS faculty in consultation with information professionals in both traditional and new-age information jobs. Culture, values and infrastructure of a country or region will determine subtle accommodations.

The information environment and information professions in developed countries have changed substantially in the past two decades, and the rate of change is accelerating. The IS programme at the Nanyang Technological University underwent two revision exercises in three years. We forsee that in the 21st century, continuous curriculum revision will be necessary to adapt to and accommodate progress in the information and technological environment and the corresponding changes in the social environment.

Ironically, the provision of social benefit has been part of the mission statement of public libraries since their inception, and the provision of social benefit through technology remains part of the mission statement of IS departments globally. Yet many educators who received training prior to the advent of technology may have problems identifying with it as a tool and may perceive it as a threat. A reassessment of core values in the light of technology may prove encouraging to such colleagues rather than isolating. This was one of the functions of the workshop.

## Conclusion

Some of the major challenges facing information science educators in Southeast Asia are no different than in other parts of the world. For example, those challenges mentioned by Johnson (1998) in his study of British schools of

librarianship and information studies. These are: the elevated level of technical skills required to manage the new information and communication technologies, competition with other professions for good students, the need to incorporate a broader range of skills drawn from those traditionally seen as separate sectors of the information industry such as publishing and corporate management, the need to develop a higher level of skills in teaching and facilitating the use of information, and the need for a better ability to work with other people. The participants of WISE acknowledged that the managerial, social and higher level aspects of using the technology are part of the paradigm, yet educating for such attitudes may be problematic.

The workshop also served as a venue for acknowledging gaps in the information available to educators, the most prevalent being that of a lack of knowledge of employment prospects for new graduates. As pointed out in an Australian survey by Willard (1998), which investigated the knowledge skills and formal qualifications of successful applicants for a subset of information management jobs, the link between qualifications and jobs is not often obvious. A preliminary survey carried out by NTU's Information Studies division leads researchers to concur that some traditional library and information science skills, such as organizing and retrieving information, managing information and assessing information needs are essential for many of the jobs in Singapore. The shift away from the warehouse model of libraries has expanded the responsibilities of librarians as well as it has information scientists. However, applicants for jobs may also need to make the case for the appropriateness of their qualifications and expertise to prospective employers. In the future, a study of the professional careers and activities of graduates of its MSc programme is planned in order to find out the extent to which the programme has actually helped graduates obtain jobs and perform effectively in both traditional as well as cyberspace based professions. This is considered a *"proof is in the pudding"* assessment.

## References

Bowden, R. (2000). Global Knowledge - Are Departments of Library and Information Science Educating for it? In Post-CONSAL Workshop on Information Studies Education, 29th April 2000. Singapore: Nanyang Technological University, Division of Information Studies. Crowley, B. (1999). A Choice of futures: Is it libraries versus information? American Libraries, 30(4), 76-77.

De Beer. (1992). Informatization of society: Social engineering or social responsibility. South African Journal of Library and Information Science, 60(1), 1-7. Downie, J. S. (1999). Jumping off the disintermediation bandwagon: reharmonizing LIS education for the realities of the 21st century [Online]. Available: http://www.lis.uiuc.edu/~jdownie/alise99 (May 15, 2000).

Johnson, I. M. (1998). Challenges in developing professionals for the Information Society: Some responses by the British schools of librarianship and information studies. Library Review, 47(3 & 4), 152-159.

Jones, P. (2000). Standing at the I.T. Crossroads: Reconciling library training with the realities of South Pacific libraries and new information technology. In Post-CONSAL Workshop on Information Studies Education, 29th April 2000. Singapore: Nanyang Technological University, Division of Information Studies.

Khoo, C., & Hawamdeh, S. (2000). IT in the Information Studies Curriculum: How Much is Enough? How Much is Too Much. In Post-CONSAL Workshop on Information Studies Education, 29th April 2000. Singapore: Nanyang

Technological University, Division of Information Studies.

Lim, E. (2000). Educating Southeast Asian Librarians for the Information Society [Powerpoint slides]. In Post-CONSAL Workshop on Information Studies Education, 29th April 2000. Singapore: Nanyang Technological University, Division of Information Studies.

Middleton, M. (1994). Differences in implementation of programs for the education of information professionals with reference to models developed by professional associations [Online]. Available: http://sky.fit.qut.edu.au/InfoSys/middle/contrib/fid_et.html. Mugler, F. & Landbeck, R. (1998). *"It's just you and the books":* Learning conditions and study strategies of distance learners at the University of the South Pacific. In J.J. Forest (Ed.), University teaching: International perpsectives (pp. 114-133). New York: Garland.

Myburgh, S. (2000). Education for Library and Information Science, a Means to an End, not an end in itself. In Post-CONSAL Workshop on Information Studies Education, 29th April 2000. Singapore: Nanyang Technological University, Division of Information Studies

National Research Council. (2000). Making IT better: Expanding information technology research to meet society's needs [Online]. National Research Council Public Briefing, May 10, 2000. Available: http://usinfo.state.gov (May 12, 2000)

Pemberton, J.M., & Nugent, C.R. (1995). Information studies: Emergent field, convergent curriculum. Journal of Education for Library and Information Science, 36, 126-138.

Ray, K, & Day, J. (2000). Student attitudes towards electronic information resources [Online]. Available: http://www.shef.ac.uk/~is/publications/infresh/paper54.htm (May 1, 2000).
Rehman, S. (2000). Preparation of Information Professionals: Strategies and Directions. In Post-CONSAL Workshop on Information Studies Education, 29th April 2000. Singapore: Nanyang Technological University, Division of Information Studies.

Roy, P. (1996). Staff development that makes a difference. Cooperative Learning, 16(2), 4. Stueart, R.D. (1999). Educating information professionals for the next century - The Asia-Pacific Rim perspective. Presented at the IFLA Education and Training Workshop *"Standards for LIS Education: Proposed Conceptual Changes"*, August 26, 1999 at Chulalongkorn University, Thailand. Stueart, R.D. (2000). The Economic Crisis and other challenges in accessing to science and technological Information in Asia. IFLA, 26(2).

Veen, W. (1993). Integrating information technology into education: Factors affecting the use of computers in the classroom: Four case studies. London: Chapman & Hall.

Willard, P. (1998). New information management work in a changing world: An Australian survey. International Journal of Information Management, 18(5), 315-327.

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